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ABSTRACT

Three questions are addressed in this study: (1) what is the effect of additional, unexplained content on achievement and perception? (2) is the effect altered by time? and, (3) what is the relation between student achievement and student perception? It was determined that the effect on achievement was not significant but the effect on perception was significant. Delayed achievement was significantly affected. No significant conclusions were drawn about the relationship between student achievement and perception, although students with higher perception scores achieved somewhat more than those with lower perception scores. (JD)

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EFFECTS OF ADDITIONAL UNEXPLAINED CONTENT
ON STUDENT ACHIEVEMENT AND PERCEPTION

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Rosenshine and Furst (1971) specified teacher clarity as the single most promising teacher process variable they identified from descriptive process-product studies. Neither the number nor the exact identification of the low-inference variables comprising teacher clarity is known with any certainty. Land and Smith (1979), however, have suggested there are at least two basic components of teacher clarity: a) measures associated with the verbal presentation of the lesson, and b) measures associated with the organization or presentation of the content and learning activities. In addition, each of these components can be divided hypothetically into inhibitive and facilitative variables as indicated in Figure 1.

Figure 1
Teacher Clarity

	Facilitative	Inhibitive
Component		
a) verbal presentation	utterances of "ok" (Smith, 1973)	mazes, vagueness terms (Land and Smith 1979)
b) organization or presentation of content	clear transitions (Crossman and Olson, 1969)	additional unexplained content (Land, 1979; Land and Smith, 1979)

The basic purpose of this pilot study was to determine the effect of the teacher clarity variable additional unexplained content on student achievement. Among the variables that Land and Smith (1979) studied was additional unexplained content. They reported no significant effect on student achievement in mathematics. However, the additional content in that study was used only superficially and the

frequently was less than 1 term/min. In the present study the variable additional unexplained content was defined as extra terms or phrases related or apparently related to the lesson but not essential to the main idea or main objective of the lesson and not explained during the lesson. Following is an example of a lesson without additional content followed by a lesson with additional content indicated in italics.

Lesson

A concept is a word or phrase (but not a complete statement) or symbol that refers to a group of one or more objects, qualities, actions, or things possessing common characteristics. Here are three examples of concepts: bacteria, parts of speech, HCl.

Lesson with additional content

A concept is a word or phrase (but not a complete statement) or symbol that refers to a group of one or more objects, qualities, actions, or things possessing common characteristics. Here are three examples of concepts: bacteria, parts of speech, HCl. Concepts can be classified as concrete vs. abstract and as conjunctive, disjunctive, or relational.

Assuming that the main idea of the above lessons was to teach the definition of concept, then one can assume that the last statement in the last lesson fits the definition of additional, unexplained content.

The questions addressed in this pilot study were: What is the effect of additional, unexplained content on achievement and perception? Is the effect altered by time? What is the relation between student achievement and student perception?

Method

The investigators used a 3 (low vs. medium vs. high level of additional content) X 2 (immediate vs. delayed achievement) between, within design. Subjects were randomly assigned to one of the three additional content conditions.

The method of scripting and videotaping described by Land and Smith (1979) was used to present the lessons. The low additional content lesson contained zero cases of the variable; the medium content lesson contained 1.4 instances of additional content/min; and the high content lesson contained 2.6 instances of additional content/min.

Subjects viewed the lesson, rated the teaching, and then took a 20-item exam over the content of the lesson; two weeks later the subjects again took the 20-item exam.

Results

Question 1: What is the effect of additional, unexplained content on achievement and perception?

The effect on achievement was not significant, $F(2,66)=1.83$, $p > .05$, but the effect on perception was significant, $F(2,65)=4.82$, $p < .025$ (Table 1).

Table 1
Achievement and Perception Scores

Condition	Achievement		Perception
	Immediate	Later	
Low	15.79(2.89)*	12.58(3.88)	33.67(3.45)
Medium	15.77(2.07)	12.59(3.81)	30.59(3.78)
High	14.48(2.92)	12.74(2.72)	30.95(3.87)

*Standard deviations in parentheses

Question 2: Is the effect altered by time?

Delayed achievement was significantly affected, $F(1,66)=29.09$, $p < .001$, but the interaction effect was not significant, $F(2,68)=0.93$, $p > .05$.

Question 3: What is the relation between student achievement and student perception?

Coefficients of correlation between the immediate achievement scores and perception are shown in Table 2.

Table 2
Correlations

$\underline{r}$ (low content)	= -.011	df = 22 $p > .05$
$\underline{r}$ (medium content)	= +.378	df = 20 $p < .05$
$\underline{r}$ (high content)	= +.089	df = 20 $p > .05$
$\underline{r}$ (overall)	= +.186	df = 66 $p > .05$

On the basis of the highest and lowest perception scores as the independent variable, the authors calculated the effect on achievement. The results were not significant, $t(26)=1.26$, $p>.05$, although the students with the higher perception scores achieved somewhat more than those with lower perception scores, 15.14 vs. 13.85.

Discussion

Students are able to discriminate between lessons containing no additional content and lessons containing 1.4 or more instances/min additional content but there is no significant effect on achievement by either the additional content or the perception of that additional content.

It does not appear fruitful to pursue additional research with the present operational definition of the variable additional unexplained content. A critical analysis could show, however, that the variable as presently defined may contain both facilitative and inhibitive measures. If this is the case, then more research would be appropriate.

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